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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,812	10/03/2003	Christopher Brown	NOR-031 (16135RO)	3264
32836	7590	05/29/2007		
GUERIN & RODRIGUEZ, LLP 5 MOUNT ROYAL AVENUE MOUNT ROYAL OFFICE PARK MARLBOROUGH, MA 01752			EXAMINER FAROUL, FARAH	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			05/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/678,812

Applicant(s)

BROWN ET AL.

Examiner

Farah Faroul

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11, 13-16, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 12, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. The following Office Action is based on Application No. 10/678,812 filed on October 3, 2003, having claims 1-20 and Figures 1-10.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "the communication system" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. It is suggested that applicant delete the limitation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4, 7-9, 11, 13-16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iacovino et al. (US 2004/0085954 A1) in view of Chen et al. (US 7,170,851 B1).

For claims 1, 11 and 14, Iacovino discloses receiving an incoming signal at first card of a network element from over a network (paragraph 34, lines 1-17 wherein an incoming signal is received from over a network)

Incorporating protection-signaling information (paragraph 45, lines 1-11, protection information is encoded onto a status byte for each STS-1 signal) obtained from the incoming signal into an out-of-band signal (element 770 in Figure 7) (paragraph 45, line 1 to paragraph 46, line 8 wherein the protection-signaling information is transferred onto the out-of-band signal (channel 770))

For claims 1, 11 and 14, Iacovino discloses the entire claimed invention except for transmitting the out-of-band signal with the protection-signaling information incorporated therein from the first card to a second card in the network element ^{CHEN,} (Figure 2, elements 204, 206 and 208, column 4, line 27 to column 5, line 20 wherein the signal is transmitted from a first to a second card)

Thus, it would have been obvious to someone of ordinary skill in the art to combine the optical network topology of Chen with the out-of-band signaling apparatus of Iacovino. The optical network topology of Chen is implemented into the out-of-

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signaling apparatus of Iacovino by adding tributary cards and cross connect card to the network element of Iacovino. The motivation to combine the optical network topology of Chen with the out-of-band signaling apparatus of Iacovino is that it provides an efficient mechanism for protection signaling.

For claims 2 and 16, Chen discloses the first card and second card are tributary cards (column 5, lines 12-20 wherein both cards are tributary cards)

For claims 3 and 15, Chen discloses the first card is a tributary card and the second card is a cross-connect card (column 4, lines 58-67 wherein the second card is a cross-connect card)

For claim 4, Iacovino discloses aggregating protection-signaling information obtained from out-of-band signals (paragraphs 48-49, paragraph 40, lines 1-9 wherein the protection-signaling information from the out-of-band signals are combined)

For claim 7, Iacovino discloses the protection-signaling information includes protection-switching protocol information (paragraphs 42-43 wherein the protection-signaling information includes UPSR)

For claims 8 and 19, Iacovino discloses the incoming signal is an optical signal having a transport overhead, and the protection-switching protocol information is carried by K1 and K2 bytes of the transport overhead (paragraph 8, lines 1-10, paragraph 15, lines 1-20 wherein the signaling information is carried by K1 and K2 bytes of the transport overhead (box 1 of Fig 1) of the incoming signal)

For claims 9, 13 and 20, Iacovino discloses the out-of-band signal is a frame transmitted at a frame rate used for synchronous data transmission of optical signals

(paragraph 7 and paragraphs 38-39 wherein the out-of-band signal is transmitted as at a rate typical of optical signals (OC-48))

Allowable Subject Matter

4. Claim 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

5. Claims 5-6, 12, and 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brolin et al. (US 7,012,917 B2) and Ben-Zur et al. (US 7,054,324 B1) are cited to show systems pertinent to applicant's invention.

Brolin discloses a service unit for a hub having multiple star interconnect configurations. Ben-Zur discloses an interface transmitter for communications among network elements.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farah Faroul whose telephone number is 571-270-1421. The examiner can normally be reached on Monday - Friday 6:30 AM - 4 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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